DECEMBER 1981

TRS-80™ NEWSLETTER

SOUTH BAY - USERS GROUP

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SBUG meetings are held the 3rd Tuesday of each month in the north east corner of Dyesne' new building, 5401 Patrick Henry Drive, Santa Clara at 7:15 to 10:30 PM.

DECEMBER 15, JANUARY 19, FEBUARY 16

Features: Election of a new steering committee
Drawing for free courses
Open rap session

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The SBUG members would like to pass on a speacial thanks to DYSAN for the use of their new facility at Patrick Henry Drive. The convenience and space of the facility makes our meetings much more enjoyable. Thanks Dysan we really appreciate it.

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Treasurers note:

I'm now accepting club dues for next year (82). If you wish to pay by mail make check payable to:

South Bay TRS-80 Users Group
2340C Walsh Ave.
Santa Clara, Ca 95051

Thanks,
Allen Gleaser

Editors note:

On Tuesday, December 1st the following committee:

Tom Andersoo	Larry Gundersoo
Bob Chapin	Marv Wiley
Gerald McKee	Robert Byrd

got together to evaluate the possibility of a bulletin board and put together a questionnaire to see how the rest of the members feel about this idea. We also felt that it is time to find out where the rest of the club stands, so the new steering committee can provide more subjects of your interest. Please fill out the questionnaire and either bring it to the next club meeting or staple it closed and drop it in the mail. It is very important that all members participate.

The committee believes that a bulletin board would be a great asset to the club. Here are just a few advantages:

a) Message center for members.
b) Helpful hints to common problems that many members encounter. (BUG * LIST)
c) Collection center for newsletter articles.
d) An up to date file of members names addresses and phone numbers.
e) Library of useful non-copyrighted programs.
f) For sale board of the best hardware and software buys in town. Including items for sale by club members.

g) Place for members interested in group buys to organize and set up the right deal.
h) Stock investment club could be organized by members to share a common data base.
i) Need help section for members with unusual problems.

This list could go on, it's actually up to our imagination and creativity the usefulness we can get out of such a system. If you're not a modem user you can still benefit by a much improved news letter. I believe that the bulletin board could posaibly stimulata more contribution of articles. You may also have a friend in the club who does own a modem wbo could obtain various information for you. Just bscause you're not a modem ueer now doesn't mean that you might not be one in tbe future. A syatem of this nature may take several montbs to put together and by tbe time your ready it will be there for you to access. Tbis is a very good way for us to share the complexities of our TRH-80s so pasa tbe word, tbe password is: S H A R I N G.

Robert Byrd

****

On the quastionnaire it also asks for nomination for membara of tbe naw steering committee. Plaaae only nominate thosa wbo wiab to participata to sava tbe nominee tbe embarraasment of declining. Remember you can nominate yoursalf.

If you wish to make a nomination and can not maka tbe next club maeting then give your questionnaire to a friend wbo can maka tbe meeting. If you do not wisb to maka a nomination tben simply fill out the qusstionnaire and drop it in tba mail.

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FASTER SORTS

Thera appears to be a perennial interest in sort routinee by SBUG Members. However, I can't help but note that all of tboae wbich I havs seen published to date in the SHUG newsletter ara ralativaly slow. At least so when measured by tbe fact tbat sort time quadruples with each doubling of items to be stored. Theea routines belong to the so-called aquare-law family of sort routines.

Here's a super-fast one which I have used since 1964. It was passed on to me by a programmer involved in the early development of sort routines for hard sector discs. With this routine, sort tima will only increasa 2.8 times for each doubling of items to be stored. (It is a three-halves power law sort routine). If that should seem to be only a marginal improvement, compare tbe following times as measured on my Model III TRS-80: A dimensioned array containing 700 items took four hours and 52 minutes by a standard square-law sort routine similar to the ones I have seen published. The aame array took just 11 minutes by tbis procedure.

In the listing of the sort routine, Max is the upper limit of real data in the dimensional arrays D(I), LBL(I), and COD(I). Note that

two are string filea and one is integer. On the first loop, the program deals with only one third of the arrays. It compares the firet third of the array with the last third. In subsequent loops, it looks at the entire array. This occurs at statement 4030 when L=2.

The program is at ita best when files are very much out-of-sort (as occura when new data is appendad to the end of an existing file). It ia at worst when operating on a file that is almost in sort.

I heven't uaed it for actually sorting data on TRS-80 discs, for thet ie too alow. Inatead, I use sequentisl file to store the disc eddreeeeee and reed the data into arraya D(I), LBL(I), and COD(I). If readare are intareeted, I csn go into thet eome otber time.

```
10 CLEAR 14400:GOSUB6200:CLS'DIR IS "UPDATE",A
100 DEFSTRA-H:DEFINTI-N:DEFSNGO-Z:Y1$="YES":Y2$="NO"
110 DIMA(5),C(9),B(9),D(700),LBL(700),COD(700),C1(2,9),CD(6)
4000 'SORT ROUTINE
4020 L=MAX
4030 L=(11*L+10)/16
4040 I=1:LFLG=0
4050 FORJ=LTOMAX
4060 IF D(J)=>D(I)THEN4090
4070 LBL(0)=LBL(J):LBL(J)=LBL(I):LBL(I)=LBL(0):LFLG=1
4072 COD(0)=COD(J):COD(J)=COD(I):COD(I)=COD(0)
4074 D(0)=D(J):D(J)=D(I):D(I)=D(0)
4080 PRINT"SORTING";L;"TO";MAX;"ON ";LBL(I)
4090 I=I+1:NEXT
4100 IFL<>2THEN4030
4110 IFLFLG=1THEN4030
4115 LBL(0)=MAX:D(0)="THIS REC. IS":COD(0)="MAX     "
4120 RETURN
```

Jerry Sutcheaon

How Abont Joining The "Chain Gang"

Sow many of you have NEWDOS 80 or LDOS or some other operating syetem wbich providea chaining? How many of you have heen cowed hy the thought of how you might use the capability and haven't tried. Hers is a simple approach that provides rather good results and illuetratea aome of the tricks that you can use.

Thie example will provide a chain command thst will run the ACCEL2 compiler to compile a hasic program and all that you have to do is etart the chain with a DO ACCEL from the DOS or CHAIN ACCEL if your DOS doesn't recognize the DO command.

The first thing to do is load SCRIPSIT because you will create the chain file with SCRIPSIT. Type into SCRIPSIT as follows:

```
LOAD ACCEL2/CMD
BASIC 59904
```

```
CMD"DIR :1
RUN"LOADER/BAS
DELETE63900-63904
SYSTEM
 /59904
 /FIX
```

Now save the file that you have created as ACCEL/JCL. Notice that all of the statements in the file are commands that you would type in from the keyboard without the chain file. The program that you enter from LOADER/BAS is the one that will be compiled. The DELETE command eliminates LOADER/BAS so it will not be compiled. I put in the directory command because I want to see the programs available for selection. As I have stated many times before, if you don't really know what you are doing just diddle. Try any number of things. Some work and some don't. That is how I created this file. I don't think you will break the computer. I didn't.

The BASIC program for loading the program to be compiled is LOADER/BAS and lists as follows:

```
63900 PRINT"ENTER THE NAME OF THE PROGRAM TO BE COMPILED"
63901 CMD"CHNON,N
63902 LINEINPUTA$
63903 MERGEA$
63904 CMD"CHNON,Y
```

The program lines are given very high numbers so that they will not interfere with the program to be compiled. It is necessary to break out of the chain sequence with the CHNON,N otherwise the chaining will not stop to let you compile. The next two lines get the selected program into memory. If you are not using version 2 of NEWDOS 80 it will be necessary to save the basic program in ASCII before running the program. This alone may be enough to keep you from usin this particular program. After things are all merged then you go back to chaining with the CHNON,Y command.

Whether you use this program or not, it illustrates the preparation and use of chain files. The are very handy and simple to create. Just get SCRIPSIT out and type.

Tom Anderson

==========

```
10 '          THIS ROUTINE CAN BE USE TO REDIFINE KEYS.
20 '           Roger Anderson    Phone (400) 732-4307
30 'Z$=INKEY$:IF Z$="" TBEN 30
40 'ON ASC(Z$)-<X> GOSUB  LINE 1,LINE 2,LINE 3,.....LINE N
50 'GOTO 30
60 '<X> = an ASCII val 1 less than ASCII val of the lowest
70 'key to be redefined.
80 'ASC(Z$) Returns the ASCII value of the redefined key.
90 'For example if you desire to redefine the numbers 1-9
100 'then <X> would = 48.
110 'If it is desired to redefine the keys A-Z then
120 '<X> = 64
```

```
130 'Try this program.
135 CL8:CLEAR(2888)
136 PRINT @968,"PRESS ANYKEY FROM A TO J";
140 X$=INKEY$:IF X$="" THEN 140
150 ON ASC(X$)-64 GOSUB 178,188,198,208,218,228,238,248,258,268
160 GOTO 140
170 POKE 15398,42:RETURN
180 POKE 15453,42:RETURN
190 POKE 15454,42:RETURN
200 POKE 15455,42:RETURN
210 POKE 15516,42:RETURN
220 POKE 15517,42:RETURN
230 POKE 15518,42:RETURN
240 POKE 15519,42:RETURN
250 POKE 15520,42:RETURN
260 PRINT @512,STRING$(63,"-");
270 PRINT @650,"SEE SOW IT WORKS?";
280 PRINT @768,STRING$(63,"-");
290 RETURN
```

FREE COURSES AVAILIBLE

Learning Cnncspte, Fred Sehhsl (sxscutiva dirsctor), is a nsw sdncational firm opening for huisnsaa at 3865 Dsmocracy Way - Santa Clara, nsar nur cluh meating placa. Frsd Ssbbel has passsd on to ma, tn givs tn SSUG membsrs, fiva frss introductory classes in programing and word procsseing. Courss dsscriptions follow:

COURSE TITLE: INTRODUCTION TO PERSONAL COMPUTING

This cnnrss is dssignsd for ths individual who has nsver sxperiencsd the sxcitement of using a pereonal computsr. The combination lecturs, hands-on class covsra euch topics as: Syatem Elemsnts of Persanal Computsrs, Powsring On end Sootstrapping ths System, Saeic Operating Systsm Software Using the Popular CP/M Operating Systsm, Fundamentala of Computer Programming, Demonstrationa of Varions Applications Softwars, and Conaidsrations of Pnrchasing a System.

COURSE TITLE: PROGRAMMING IN BASIC

This courss is dssignsd for individuals wishing to lsarn how to program a computer uaing ths simpls "SASIC" programmming languags. No prsvious experience in using a computsr is necesssary. Ths prsdominantly henda-on naturs of this courss allows ths studsnt to learn by practical exposurs.

COURSE TITLE: WORDPROCESSING FOR HOME AND BUSINESS

This courss is dssignsd for ths individual wishing to learn ths fundamentals of wordprocsssing using a personal computsr. No prsvious sxperisnce is nscsssary sither in using a wordprocessor or with using a computer.

Please fill out this questionnaire as completely as possible and either bring to the next club meeting or staple it closed, place a stamp in the appropriate place and drop it in the mail. The address has already been filled out.

Thanks . . . .

********* South Bay TRS-80 User Group Questionnaire *******

It is assumed that Radio Shack's TRS-80 is your computer!

Name:

Company Name (If any):

Address:

City, State:

Zipcode, Phone:

Please Circle Appropriate Answer

Model: I II III Color

LEV I LEV II

Memory: 16K 32K 48K 64K

Disc: YES NO

If Yes to previous question: 5 IN 8 IN

Operating system: TRSDOS NEWDOS NEWDOS80 LDOS C/PM

Other:

Modem: YES NO

If you answered NO to previous question would you be interested in a modem group purchase?

YES NO

The club is considering purchasing a bulletin board system. The system will consist of a Model I with 48K of RAM, four double aided floppy discs and of cource a 300 baud auto-answer modem. If this should happen the cost will be approximately $2500.00. The more members that participate in the cost of the system the less it will cost per member.

50 members -- $50 per person
100 members -- $25 per person
150 members -- $17 per person
entire club -- $12 per person

Would you be interested in the club purchasing a bulletin board?

YES NO

Rank fastures of club from 1 to 8. <1> heing the most liked faature <8> the leest.

Disk Library ------->_____

Tape Library ------->_____

Documentation Library ------>_____

Newsletter ------->_____

Rafflea ------->_____

Group Diacussiona ------->_____

Preeentationa ------->_____

Group Purcheeee ------->_____

Thara ara five membera in the steering committee; threa discusion leadara, treasurer, and neweletter editor. If you wiah to maka a nominstion for one of thaaa positiona antar name and qualificationa below. Entry muat be a membar of SBUG.

Name:

Poeition:

Qualificationa:

We will happily accapt any comenta or suggsationa for tha members of the new steering committaa.

Comments:

Editor, South Bay TRS-80 User Group
Robert Byrd
450 N. Mathida Ave. # I-208
Sunnyvale, Ca 94086

HEADER FOR BASIC PROGRAMS

Vigo Smith

Need a header or box around your title in BASIC programs? Here is an Assembly Language program that will draw an attractive border around your title using only three BASIC statements (disk BASIC only). Following is a sample program to put the title "ACCOUNTS PAYABLE" on the screen:

```
10 CLS
20 CMD"L","HEADER/CMD"                  'LOAD MACHINE LANG PRGRM
30 DEFUSR=&HBB80:                       'STARTING ADDRESS
40 X=USR(0)                             'DRAW IT!!
50 NM$="A C C O U N T S   P A Y A B L E"
60 PRINT @288-LEN(NM$)/2,NM$;
70 IF INKEY$="" THEN 70                 'HIT ANY KEY TO END
80 CLS:END
```

Note that statements 20, 30 and 40 put the border on the screen. Even statement 20 can be omitted if you load "HEADER" with a DO BUILD in TRSDOS.

I use this subroutine on many BASIC programs. It saves time when writing your BASIC program and it was fun doing the Assembly Language program. Here is what it looks like (had to write a special program to put it on the printer):

The Assembly listing looks long, but notice that the machine code only uses 98 bytes. The program is set up to run at 48000 in my 32K machine. It can be easily relocated to higher memory if you have 48K. Be sure to reserve user memory for the program when you run BASIC (MEMORY SIZE? 47999 for 32K machine).

```
                00100 ;                 HEADER PROGRAM
                00110 ;         VIGO N. SMITH - SEPTEMBER, 1981.
                00120 ;THIS ASSEMBLY LANGUAGE SUBROUTINE PRINTS A RECTANGULAR
                00130 ;BORDER TO BE USED AS A HEADER  FOR BASIC PROGRAMS
                00140 ;
BB80            00150           ORG     0BB80H          ;STARTS AT 48000
BB80 ED4BE1BB   00160 START     LD      BC,(DST)        ;VIDEO RAM ADDRESS
BB84 3E00       00170           LD      A,00H
BB86 08         00180           EX      AF,AF'          ;SAVE 0 IN A'
BB87 3EA8       00190           LD      A,CHAR1
BB89 02         00200           LD      (BC),A          ;DISPLAY FIRST CHAR
```

```
BB8A 03        00210          INC     BC
BB8B 3E9C      00220          LD      A,CHAR2
BB8D 1E2A      00230          LD      E,TAB1          ;SET UP LOOP OF 42
BB8F CDBFBB    00240          CALL    REPEAT          ;PRINT CHAR2 42 TIMES
BB92 3EBC      00250          LD      A,CHAR3
BB94 02        00260          LD      (BC),A          ;DISPLAY CHAR3
BB95 211500    00270          LD      HL,TAB2         ;SET UP TAB 21
BB98 CDCCBB    00280          CALL    TBL             ;EXECUTE TAB
BB9B 1E05      00290          LD      E,05H           ;SET UP FOR 5 LOOPS
BB9D CDD0BB    00300 LOOP     CALL    EDGEB           ;DRAW EDGEB
BBA0 211500    00310          LD      HL,TAB2
BBA3 CDCCBB    00320          CALL    TBL
BBA6 1D        00330          DEC     E
BBA7 3E00      00340          LD      A,00H
BBA9 BB        00350          CP      E
BBAA CABOBB    00360          JP      Z,NEXT
BBAD C39DBB    00370          JP      LOOP            ;RETURN FOR NEXT EDGE
BBB0 3E8A      00380 NEXT     LD      A,CHAR7
BBB2 02        00390          LD      (BC),A          ;DISPLAY CHAR7
BBB3 03        00400          INC     BC
BBB4 3E8D      00410          LD      A,CHAR8
BBB6 1E2A      00420          LD      E,TAB1
BBB8 CDBFBB    00430          CALL    REPEAT          ;PRINT CHAR8 42 TIMES
BBBB 3E8F      00440          LD      A,CHAR9
BBBD 02        00450          LD      (BC),A          ;DISPLAY CHAR9
BBBE C9        00460          RET                     ;RETURN TO BASIC
BBBF 02        00470 REPEAT   LD      (BC),A
BBC0 03        00480          INC     BC
BBC1 1D        00490          DEC     E
BBC2 08        00500          EX      AF,AF'
BBC3 BB        00510          CP      E
BBC4 08        00520          EX      AF,AF'
BBC5 CACBBB    00530          JP      Z,RETURN
BBC8 C3BFBB    00540          JP      REPEAT          ;RETURN TO PRINT AGAIN
BBCB C9        00550 RETURN   RET
BBCC 09        00560 TBL      ADD     HL,BC           ;TAB SUBROUTINE
BBCD 44        00570          LD      B,H
BBCE 4D        00580          LD      C,L
BBCF C9        00590          RET
BBD0 3EAA      00600 EDGEB    LD      A,CHAR4         ;EDGE PRINT SUBROUTINE
BBD2 02        00610          LD      (BC),A
BBD3 03        00620          INC     BC
BBD4 3E95      00630          LD      A,CHAR5
BBD6 02        00640          LD      (BC),A
BBD7 212A00    00650          LD      HL,TAB1
BBDA CDCCBB    00660          CALL    TBL             ;TAB 42
BBDD 3EBF      00670          LD      A,CHAR6
BBDF 02        00680          LD      (BC),A
BBE0 C9        00690          RET
00A8           00700 CHAR1    EQU     0A8H            ;CHR$(168)
009C           00710 CHAR2    EQU     09CH            ;CHR$(156)
00BC           00720 CHAR3    EQU     0BCH            ;CHR$(188)
00AA           00730 CHAR4    EQU     0AAH            ;CHR$(170)
0095           00740 CHAR5    EQU     095H            ;CHR$(149)
00BF           00750 CHAR6    EQU     0BFH            ;CHR$(191)
008A           00760 CHAR7    EQU     08AH            ;CHR$(138)
008D           00770 CHAR8    EQU     08DH            ;CHR$(141)
008F           00780 CHAR9    EQU     08FH            ;CHR$(143)
002A           00790 TAB1     EQU     02AH            ;DECIMAL 42
0015           00800 TAB2     EQU     015H            ;DECIMAL 21
BBE1 4A3C      00810 DST      DEFW    3C4AH
BBB0           00820          END     START
00000 Total Errors
```

****

The course in wordprocessing will prohahly use a more popular wordprocessing program such as "Word Star" operated under CP/M.

There will he a drawing at ths next cluh meeting to see which ons of the lucky memhers in the cluh get one of these free coursea. Beginners might enjoy the BASIC class while more advanced computer users might find the course on CP/M a little more interesting. If you are interested in this opportunity get a ticket at Decembers meeting when you first arrive.

Good Luck,
Rohert Byrd

==========

A LITTLE NEWS ABOUT SCRIPT80

A letter Boh Stormberg received concerning an article in Beptembere 80 Microcomputing page 78. If you are an MX-80 user this letter could be of interest.

Dear Boh,

Your are right thers have heen quite a few requests for hoth of the programs mentioned. Enclosed you will find some additionel information on the Scriptr program which you can purchaee for $35.00 now that you have purchased Script80. Bope that you get more out of Scripsit with the new routine. Scriptr is a universal paralell printer driver that will work with any printer that usee the paralell port. Tbe articls wasn't very clear on thia point. Bope that the accompanying material helps to answer any queetione that you may have.

Dennis works for 80 Microcomputing and has rather close proximity to the Instant Software offices in Peterhorough. Be knows a numher of people there and gets a look from time to time at the latest things that they are working on. Bs had a number of letters ahout this control code prohlem when he saw my program heing tested there and so he contacted me ahout providing a simple patch so that some of his reades could get their machines working now without waiting for the full program. I provided Script80 for that purpose. Scriptr is now of course ready and within two weeks or so we hope to have the Model III version up and running. Instant Software will not release either of the versions untill Decemher issue of the magazines. You might he ahle to get a copy of it before then in some of their outlets hut if you need it now you should get it from me as I am the only source at present. Thanks for your interest in Script80 and Scriptr. Hope to hs hearing from you soon.

Sincerely,
Jerry Goodwin
1746 N.W. 55th. Ave #204
Lauderhill, Florida
33313
1-305-739-2071

The Case For A BUGLIST
(The second time around)

Bow meny times have you found yourself fussing with e bug in e program tbat should work but doesn't. I heve it happen to me quite often and I seem to waste a lot of time. I heve probably had the same bug before but so long ago that I do not remember the cure. It occurred to me tbat e BUG checklist might save e lot of time, particulerly if I could tap the brains of all of the club members. When a bug eppeers and tbe cure is not obvious I would consult tbe BUGLIST for possible causes.

One experience, for example, concerned tbe "SUBSCRIPT OUT OF RANGE" error. I bad dimensioned the arrays but always got an error at VARIABLE (11). After much head scratching I finelly found that I bed dimensioned tbe erray before I defined the variables. Normally I do not do it tbet way but, for some reason unknowns, this time I bed. I have searched tbe documentetion and heve found no comments or warninge to define before dimensioning. Upon questionning e few people I found tbe reactions mixed. Most said "Of course you define befors dimeneioning". But few were able to sey why. If you run e ebort program you will find tbet definition after dimension wipes out tbe dimeneion. This one is number one for my BUGLIST.

Anotber problem came from a sloppy bebit. As I suppose tbet most of you do, I many times fail to close the quotes on BASIC commande. Thie time I found tbet I could not get e program eeved in ASCII text. As you beve probably gueesed I did - SAVE"PROGNAME,A - ineteed of - SAVE"PROGNAME",A. Thie is about number two for tbe BUGLIST.

How about tbe times you have forgotten tbat FOR NEXT loops leave tbe loop with tbe loop counter set at one more then the number in tbe loop etatement. When tbis happens you sometimes get an extra errey goody wben you don't want or need them. The cure, of COURSE, ie to subtract one as you leave tbe loop. This one is number tbree.

Number four --- When using tbe PRINT @ function in basic it is good to use a semicolon following tbe commend. I have found that tbet wben I feil to use it the next line is sometimes erased. Also it prevents, I believe, a line feed scroll when printing to the laet line of tbe screen.

Number five --- If e function hae heen defined improperly the error etatement may not appear as a syntax error upon definition. Most error statements do not occur until the function is called. If this heppens save yourself a lot of time end look at the definition statement rether tban the call statement.

Number six --- Bere is a helpful hit of advice if you happen to bave ACCEL2. Many times you cennot test ell of the branches of a program to find errors without a lot of running and trying. I have found a number of hidden errors by using the compiler whether I really want the program compiled or not.

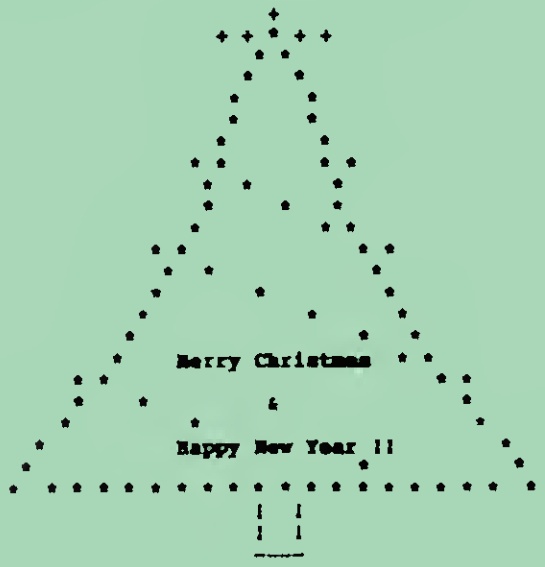
I have mentioned a few choice time wasters here that may save you some time and trouble. If you have any favorites that you would like to share I will compile the list from all of you and publish in the NEWSLETTER or put it in the documentation library. This is the second appeal that I have made to try to get this underway. If I don't make it this time I will give up and assume that you are all BUGFREE programmers. Come on now!! How about a few choice BUGS????

Tom Anderson

Send Newsletter articles to:

Editor, South Bay TRS-80 User Group
Robert Byrd
458 N. Mathilda Ave. # I-208
Sunnyvale, Ca 94086
(408) 732-6775

Please if at all possible send articles saved on disc or tape. I will see that your disc or tape is returned to you. Thanks . . .



South Bay TRS-80 Users Group
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